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Comparison of slowness estimation methods according to borehole acoustic waveform data

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Abstract

© Copyright 2016.Methods for estimating the slowness of elastic waves according to a multi-element acoustic logging are discusses in the paper. Compare slowness curves of longitudinal and transverse waves for carbonate deposits is held. Interval times curves estimated by Semblance and dispersion methods have better convergence with each other. The reason for this is that these methods estimate the group velocity, as opposed to the hodograph method, which gives an estimate of the phase velocity. Convergence of slowness curves for the transverse wave is generally belter than convergence of curves for the longitudinal wave. All methods yield similar values slowness estimation errors.

Keywords

Acoustic logging, Convergence, Dispersion, Error in slowness determination, Hodograph curve, Semblance's method